

Impact of Timed Reading on Comprehension and Speed: A Study on Turkish EFL Learners

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Abstract

Reading process has always been one of the most significant and debatable topics in the area of learning and teaching languages. Reading process in mother tongue (L1) and in a foreign language (L2), the association of these processes, variables affecting reading and the qualities of good and poor readers in L1 and L2 have been investigated greatly. Developments in the area of reading in L1 have frequently raised questions about reading in L2 and a variety of theories have been proposed to account for the relationship between L1 and L2 reading. One of the most fundamental questions raised is related to “reading fluency”. Even though the importance of reading fluency in both L1 and L2 has been emphasized, studies on fluency in L2 are still scarce if we think about its more complicated and multifaceted nature when compared to reading fluency in L1. The aim of this study was to investigate the impact of timed reading practices on the comprehension level and reading speed of learners of English as a foreign language (EFL) in Turkish context. A total of 74 students were the participants, who were randomly divided into two groups: experimental and control group. Experimental group received timed reading activities while the control group did not. Pre-test was applied on the 1st week and post-test was applied on the 7th week. Results illustrated that timed reading intervention positively affected EFL students’ comprehension level and reading speed. Implications for teaching reading in a foreign language were discussed in relation to a number of important details in the findings.

Keywords: timed reading, reading in a foreign language, Turkish EFL context

1. Introduction

1.1 Introduction of the Problem

A number of studies have been carried out to explore the effectiveness of timed reading in order to improve reading fluency in various learning contexts (Chung & Nation, 2006; Atkins, 2010; Crawford, 2008; Utsu, 2004; Utsu, 2005). However, as a component of timed reading practices, whether time affects the improvement in speed and comprehension level has still been debatable.

Stein and Solomons (1969) argued that people can do a great number of actions automatically, which means the action has been done so many times that it does not necessitate conscious attention to execute the action. According to Samuels (1976), a number of reading incidents, one of which is reading without comprehension, can be explained by automaticity. Samuels (1976) claimed that even though readers read everything on the text fluently, they might not remember what the text is about, which means the decoding is done automatically without paying attention to meaning. Considering Samuel’s (1976) claim, it can be presumed that when a text is read fast, comprehension may become lower because attention is not involved in reading process. That means despite the importance of automaticity in the process of fluent reading, attention should be paid on the meaning to comprehend the text.

According to Langer (1989), mindfulness is the state of alert, awareness of the surroundings and actions that are done. Actions that are mindfully done are done carefully and consciously, not automatically. Hook and Jones (2002, p. 9) state that “even mild difficulties in word identification can pull attention away from the underlying meaning, reduce the speed of reading, and create the need to reread selections to grasp the meaning”. Readers should be mindful for the process of comprehension even though automaticity is needed in the process of

decoding. Similarly, Walczyk, Kelly, Meche and Braud (1999) showed that mild time limitation leads to mindful reading and consequently better comprehension is achieved. Considering the significant results of the studies designed to test the effect of timed reading on reading fluency in L2, it can be said that time limitation triggers learners' attention more, help them focus better, and lead them to become good readers.

1.2 Exploration of the Importance of the Problem

Even though fluency was accepted to be a component of only oral reading in the past, previously mentioned research reveals that fluency is a significant constituent of not only oral but also silent reading. Based on the evidence gathered from a number of studies in the literature, improving reading fluency should be considered as one of the main goals of in-class reading practices. With the aim of achieving this goal, practices specifically designed with the purpose of improving reading speed and comprehension should be put into practice. Considering the significance of reading fluency and the scarcity of studies on the efficiency of fluency based practices in L2, this study is important for several reasons. First of all, there is a need for more studies in the area of L2 reading fluency, and the current study sheds light on the debates on the effectiveness of timed reading activities. The findings also demonstrate how much emphasis should be put on timed reading activities in teaching L2 reading environments, and reveal the limitations and variables of timed reading activities.

Second, even though there are studies investigating the effects of timed reading activities abroad, there are no such studies done with Turkish students. This study will be the first one to investigate the effects of timed reading practices on Turkish EFL learners. This is important because different activities may have different results with different languages and this study with Turkish EFL learners will shed light on the effects of timed reading activities on learners with a different first language.

Third, as mentioned earlier, even though fluency is one of the goals of reading lessons, the curricula in Turkish context usually ignore activities to improve reading fluency. For this reason, the results are important as they may lead to a revision of the curriculum of English language teaching in Turkey and make necessary orientations considering reading lessons to achieve fluency goals more effectively and faster. Therefore, the results of the present study are not only crucial for related literature but also for the lesson designs in Turkey. The findings are to shed light on the efficacy of timed reading on fluency, how it can be integrated into reading lessons, and the improvements that can be done in L2 reading lesson designs besides providing a basis for further studies.

1.3 Description of Relevant Scholarship

The aim of reading is to derive meaning from any written materials. During the process of deriving meaning from written materials, previous knowledge, cognition, motivation, and knowledge of language play important roles. Fluency, together with comprehension, is substantial to achieve success in reading. Being such an important and complex part of a language makes reading an indispensable component of language teaching and learning. It has been proven by research that fluency is one of the key constituents of a proficient reader (National Reading Panel, 2000).

Hudson, Pullen, Lane, and Torgesen (2009) state that fluency which consists of reading comprehension, reading fluency, and decoding fluency is a multidimensional process. Automatization and general processing speed is important for fluencies and reading fluency and reading comprehension are interrelated according to Hudson et al. (2009) model of reading, which leads to the conclusion that the focus of fluency based activities should also be multidimensional and improving speed with comprehension should be the aim of such implementations.

Alderson (2000, p. 14) defines that "fluent reading process tends to emphasize that it is rapid, purposeful, motivated, interactive". This definition is consistent with Hudson et al. (2009) model of reading and it clearly points to the fact that speed and comprehension are both indispensable elements of fluent reading and considering the qualities of good readers, fluency is essential for both L1 and L2 reading process.

Taking its importance into account, fluency can be stated as one of the most substantial elements of a proficient reader in both L1 and L2. Even though there are a number of definitions including reading rate, comprehension, decoding and automatization, each definition includes reading rate as a component of proficient reading. As Rasinski (2014) claims, the faster readers are, the better they comprehend. According to the report of the National Reading Panel (NRP, 2000), readers can never become a good reader as long as they are not fluent even if they are brilliant. Being fluent has been reported to be an obligatory condition for being a good reader by National Reading Panel (NRP, 2000). It has been pointed out that reading too slowly is a consequence of poor fluency, which leads to low comprehension. This statement also shows that speed and comprehension are two of the main elements of reading fluency.

Ur (2012) describes efficient and inefficient readers in terms of ten different points, one of which is speed. According to Ur (2012), an efficient reader reads fairly fast as a result of automatization and does not study each word laboriously. On the other hand, an inefficient reader reads slowly and does not have automatized recognition skills. As reading in a second language is a slow and strenuous process (Anderson, 1999; Jensen, 1986), improving fluency is crucial for L2 readers. With enhanced speed, readers can reach to better comprehension of written materials. Accordingly, reading fluency can be defined as the automatization of decoding, and the ability to decode and comprehend the text at the same time (Rasinski, Blachowicz, & Lems, 2012).

As a number of studies concluded, reading speed and comprehension can be covered by the term fluency which is crucial to become proficient readers in L1 and L2. However, becoming a fluent reader in L1 is not as hard as L2 because natives are surrounded by authentic reading materials and they practice language at least for five years before learning reading (Grabe, 2009). This makes fluency unavoidable to a certain level. However, L2 learners learn a new language in a classroom environment and should be instructed to read faster along with a better comprehension during reading lessons. Taking the importance of fluency in reading into consideration, improving fluency should be one of the main goals of an L2 reading lesson considering the studies on reading fluency.

Hedgcock and Ferris (2009) have a number of claims related to foreign language learners. First of all, as these learners are generally fluent and experienced L1 readers, their capabilities of L1 reading can or will transfer to L2 reading. This idea is in parallel with Cummins's (1979) Linguistic Interdependence Theory. Secondly, as the language they are trying to learn does not exist in their environments, L2 readers cannot be exposed to passages in target language frequently. So, they may never build fluency to become good readers if language teachers underestimate the importance of teaching reading strategies to gain fluency as a result of the belief that learners will automatically transfer their reading abilities from L1 to L2. It is important for teachers to be aware of these facts and provide learners practices to improve their fluency and help them become proficient in L2 reading (Mikulecky, 1990).

As a multidimensional process, fluency should be gained to become proficient readers both in L1 and L2. Reaching to a certain level of fluency means better comprehension with an appropriate reading speed, which can also raise motivation. However, it is harder to become a fluent reader in L2, thus language teachers should keep the importance of fluency in mind and help learners gain fluency via fluency based practices.

Even though there is a scarcity of studies on the effects of timed reading practices, it is possible to find a number of studies in the literature. For example, Atkins (2010) explains how understanding of timed reading has changed over time. To the research, timed reading was firstly used only to improve reading speed; therefore, research done with this view did not evaluate comprehension. However, with the questions raised about comprehension, the understanding and the aim of timed reading have become more extensive via including both reading speed and comprehension. Even though the results did not openly clarify the effect of "time" on learners, it was concluded that timed reading helped learners to gain better fluency in reading.

Chung and Nation's (2006) study is a good example for research that measures reading speed only. The study had striking results that revealed how effective timed reading was to improve reading speed. According to the findings of their study, almost all of the participants improved their reading speed 52% on average. Chang (2010), on the other hand, conducted another research measuring both reading rate and comprehension. To the results, both the experimental group and the control group improved their comprehension and reading speed, however, the experimental group's improvement surpassed the control group's by far. As revealed by the results of Chang's (2010) study, timed reading activities help students to improve both comprehension and reading speed.

Another study conducted by Chang (2012) compared the effects of timed reading and repeated oral reading on reading rate and comprehension. She investigated to what extent improving reading rate activities affects EFL students' reading speed and comprehension, and whether the improved rate can be retained for up to six weeks after the intervention. Even though both groups showed advancement, the group which was exposed to timed reading improved significantly more, especially from the point of reading speed. It was proven that both activities helped the learners to improve their comprehension and reading rate, however, timed reading was found much more effective than repeated reading activities. On the other hand, both groups retained their reading speed gains up to six weeks. Considering Chang's (2012) results, timed reading can be said to have a lasting and significant effect on reading speed and comprehension.

Tran and Nation (2014) designed a study to measure the effects of timed reading lessons on reading speed, comprehension and memory span of learners. The results were consistent with the previous studies from the

point of speed and demonstrated that speed reading courses helped learners to increase their speed without decreasing their comprehension. It is concluded that when learners are taught speed reading, they read faster and maintain or improve their comprehension while without speed reading courses, their speed decreases with the struggle of comprehension. The results also revealed that speed and memory span were somehow related. The faster the participants got, the bigger memory span they had, yet the nature of these two elements' relationship was not revealed. These encouraging results prove that timed reading is helpful for L2 learners both for speed, comprehension and memory span. Consequently, integrating speed reading into reading lessons can help L2 learners become good readers.

1.4 Research Questions

Notwithstanding the need to achieve success in fluency to become proficient in reading, not much research has been conducted on the efficacy of the practices focusing on improving reading speed and comprehension as substantial components of fluency. Considering the scarcity of the studies on the efficacy of fluency based reading instructions in teaching reading in L2, effects of these practices in L2 reading should be studied and contributed to the literature to improve L2 reading lesson designs.

The aim of this study was to investigate the effects of timed reading activities on L2 learners reading speed and comprehension levels and the following research questions were addressed:

- 1) Do EFL students who receive timed reading intervention improve their reading speed?
- 2) How many words per minute did EFL students who received timed reading intervention increase?
- 3) How much did EFL students who received a timed reading intervention improve their comprehension?
- 4) Did EFL students who did not receive a timed reading intervention improve their reading speed during the study?
- 5) Did EFL students who did not receive a timed reading intervention improve their comprehension during the study?
- 6) When two groups are compared, which group improved more from the points of reading speed and comprehension?

2. Method

2.1 Participants

74 intermediate English learners with similar educational backgrounds participated in this study, however, 10 of the participants were detected as outliers in the process of analysis, and accordingly their results were excluded. All the participants were students in preparatory class at the school of foreign languages at a state university in Turkey. These 74 students were randomly chosen. The chosen intact groups of the students were randomly divided into two groups as experimental and control groups. Even though gender and age were not considered as a variable in this study, the number of male and female students were homogeneous and the ages of participants were between 17 and 21.

2.2 Materials

Three intermediate level reading passages on 500-word level, 900-word level and 1500-word level together with comprehension questions were applied as pre-test and post-test. The 500-word level and 900-word level reading passages were taken from Cover to Cover Reading Comprehension and Fluency 2 (Day & Harsch, 2008) and 1500-word level passage was taken from an online grader book, The Thames Murderer, written by Allsworth Anne. Cover to Cover Reading Comprehension and Fluency 2 was also used for data collection. Three passages from the book were given to the learners once a week for 5 weeks which made 15 readings in total at the end of the study.

2.3 Procedures

During pre-test, post-test procedures, which were applied in the first and the last week of the intervention, the participants were given the shortest passage and they were instructed to note down their reading time. By doing so, calculating the number of words read per minute was aimed. After they finished reading, the text was taken and the comprehension questions of the passage were given to the participants. As timed reading requires, the participants were not allowed to go over the passage when they were answering the questions. The second reading passage was given to the students immediately after they answered the questions. The same procedure was applied for the second and the third reading passages. Since the books aiming to improve fluency via timed

reading included mostly multiple choice questions, all the comprehension questions preferred for timed reading activities in this study were given in multiple choice format.

After the first week of pre-test procedures, for the following five weeks, the participants in the experimental group were given three reading passages, each at 500-word level. 3 minutes were decided to be given to end reading for each text considering the average reading rate assumed for L2 learners and L1 readers (Carver, 2000; Grabe, 2009; Nation, 2009). All the participants started reading at the same time and after 3 minutes, they stopped reading, handed in the reading passage and were given comprehension questions of the text they read. No time limitation was set for answering comprehension questions. After answering all the questions, they were given the second text and the same procedure was applied for all 3 texts once a week for five weeks. After the procedure, the answers of the questions were discussed with the participants.

The participants in the control group were given the same texts, and same comprehension questions. They were not allowed to go over the text to answer comprehension questions, either. The difference between the experimental and control groups was the element of time. The experimental group was limited to three minutes to read the texts, while there was no such limitation in the control group. This difference would shed light on the effect of time pressure on learners' reading speed and comprehension.

Post-test was applied in the seventh week of data collection procedure. At the end of the procedures, comprehension and time were compared statistically.

2.4 Data Analysis

Reading speed in seconds was converted to words per minute (wpm) using the following formula:

A total number of words of the text divided by the reader's reading time in seconds multiplied by 60. The reading speed of the 3 articles after conversion to wpm were later averaged to get an average reading speed.

Reading comprehension score, on the other hand, was computed by summing up the total number of correct answers for the 3 comprehension passages. One point was given for each correct answer. The maximum point an individual could score was 26 and the lowest was 0.

SPSS version 18 was used for the statistical analysis. Preliminary analysis showed the experimental group had statistically higher reading rate than control group ($t(51.53)=4.12$, $p<0.001$). For this reason, ANCOVA was assumed appropriate for the analysis of reading rate. This possible effect of the difference in initial reading rate between the experimental and control groups was accounted for by using ANCOVA which included pre-test reading rate as a covariate.

For the comprehension score, at the start of the study, prior analysis revealed no meaningful difference between groups, so repeated measures ANOVA was performed along with paired sample t-test for comprehension analysis. Paired sample t-test was utilized to find out the differences between pre-test and post-test within the groups individually.

3. Results

The results are reported under three main headings: results of reading speed, results of reading comprehension, and comparison of two groups. Experimental and control groups' results focus on both reading speed and comprehension levels within groups while comparison of the groups measures the differences between groups.

3.1 Results for Reading Speed

Table 1. Means and standard deviations of reading speed for the experimental and control groups at two different time periods

	Experimental (n=31)			Control (n=33)		
	Mean (wpm)	SD	Range	Mean	SD	Range
Time						
Pre-test	136.38	29.89	84.24-197.50	110.09	19.75	75.24-140
Post test	196.73	44.66	108.65-296.43	153.09	32.14	93.33-210
Gains	+60.35 wpm or 44%			+43.00 wpm or 39%		

Means and standard deviations of reading speed for the experimental and control groups before and after the intervention are shown in Table 1. The analysis points out that the students in the experimental group had a mean post-test reading speed of 196.73 wpm.

Table 2. The results of experimental group for the variable “speed”

	N	\bar{X}	t	p
Pre-test	31	136.3784	-8.658	0.0
Post-test	31	196.7250		

RQ1: Did EFL students who received timed reading intervention improved their reading speed?

The students in the experimental group improved their reading speed after having repeated reading practices in the course of five-week application. The students in the experimental group had a mean pre-test reading speed of 136.38 wpm and a mean post-test reading speed of 196.73 wpm which means a 44% gain in their reading speed.

RQ2: How many words per minute did EFL students who received timed reading intervention increase?

As it is mentioned above, there is a 44% increase in the reading speed of the participants in the experimental group. When the percentage is changed into number of words per minute, there is an increase of 60.35 wpm after the timed reading interventions. Paired sample t-test result shows that the difference between pre-test and post-test within the group is statistically significant ($t=-8.658$, $p=0.00<0.05$).

Table 3. Percentage change in the experimental group for the pre-test and post-test (n=31)

Speed range (wpm)	Pre-test (%)	Post-test (%)
Below 130	45.2	3.2
130-149	29.0	9.7
150 and above	25.8	87.1

When the reading speed increase of the experimental group is divided into 3 groups, during the pre-test period in the experimental group, 45.2% of students had a reading speed below 130 wpm, however, after the post-test just about 3.2% of students had a reading speed below 130 wpm. The percentage of students with reading speeds of 150 and above wpm after the post test was 87.1% in comparison with 25.8% during the pre-test period. The results shown in Table 4 reveal that 87.1% of the learners in this group score over 150 and above wpm which is closer to the idea of the ideal number of 200 wpm, which is suggested by Carver (2000).

The analysis of independent sample t test shows that control group had a mean reading rate of 110.09 wpm in pre-test. This result is necessary to make a comparison of reading speed within the group itself and between groups which eventually reveals the effects of timed reading on reading speed. Participants belonging to the control group have a mean reading rate score of 153.09 wpm in the post-test.

Table 4. The results of control group for the variable “speed”

	N	\bar{X}	t	p
Pre-test	33	110.0913	-8.094	0.00
Post-test	33	153.0923		

RQ4: Did EFL students who did not receive a timed reading intervention improve their reading speed during the study?

Participants belonging to the control group scored 110.09 wpm in pre-test while their score increased to 153.09 wpm in post-test. This increase shows that participants in the control group gained 43.00 wpm, namely 39% increased reading speed in the course of 5-week-reading application even though they did not receive any timed

reading intervention. According to the analysis, this difference between pre-test and post-test is also statistically significant ($t=-8.094$, $p=0.000<0.05$).

3.2 Results for Reading Comprehension

Table 5. Means and standard deviations of comprehension score for the experimental and control groups at two different time periods

	Experimental (n=31)			Control (n=33)		
	Mean	SD	Range	Mean	SD	Range
Pre-test	18.39	2.89	12-24	18.48	3.81	11-25
Post test	19.65	3.02	14-25	19.15	4.40	10-28
Gains	1.26 or 7%			0.67 or 4%		

The results show that the students in the experimental group had a mean score of 18.39 in the pre-test (Table 6). The results of pre-test are substantial for the comparison of groups from the point of comprehension and for the comparison of the results in the experimental group itself.

The analysis shows that participants in the experimental group have a mean score of 19.65 in post-test.

Table 6. The results of experimental group for the variable “comprehension”

	N	\bar{X}	t	p
Pre-test	31	18.3871	-2.978	.006
Post-test	31	19.6452		

RQ3: How much did EFL students who received a timed reading intervention improve their comprehension?

The participants in the experimental group had a mean score of 18.39 in the pre-test while their mean score increased to 19.65 in post-test. When the results of pre-test and post-test are considered, the learners in the experimental group gained a score of 1.26 or in other words 7% reading comprehension after timed reading intervention. The difference is also statistically significant, which means that timed reading intervention made a significant difference on the learners' comprehension levels ($t=-2.978$, $p=0.006<0.05$).

The analysis shows that the participants in the control group had a mean score of 18.48 reading comprehension in pre-test.

The results of the analysis of control group's reading comprehension show that the participants had a mean score of 19.15 after the intervention.

Table 7. The results of control group for the variable “comprehension”

	N	\bar{X}	t	p
Pre-test	33	18.4848	-1.020	.315
Post-test	33	19.1515		

RQ5: Did EFL students who did not receive a timed reading intervention improve their comprehension during the study?

Control group has a mean score of 18.48 reading comprehension in pre-test while the results of the post-test show a mean score of 19.15. The comparison of these results indicates to a 0.67 increase in control group's reading comprehension. In percentages, there is a 4% increase in the comprehension level of control group after reading intervention although timed reading was not applied in control group. As shown in Table 8 above, the difference of control group's pre-test and post-test is not statistically significant considering comprehension.

3.3 Comparison of the Groups for Speed Rate

RQ6: When two groups are compared, which group improved more from the points of reading speed and comprehension?

The students in the experimental group improved their reading speed after having repeated timed reading practices in the course of five-week application. The students in the experimental group had a mean pre-test reading speed of 136.38 wpm and a mean post-test reading speed of 196.73 wpm, with a gain in their reading speed by 60.35 wpm (44%) after the reading interventions.

Students in the control group also improved their reading speed though not as strongly as those in the experimental group. Students belonging to the control group increased their reading speed from 110.09 wpm in pre-test to 153.09 wpm in the post test with a gain of 43.00 wpm (39%).

Comparing the results of both groups, it is clear that the students who received a timed reading intervention for 5 weeks improved their reading speed 20.35 wpm more than the students in control group.

Table 8. Test of Between-Subject Effects with post reading rate as dependent variable

Source	Type III Sum of Squares	df	Mean Square	F	Sig
Corrected Model	51244.930	2	25622.465	21.683	0.000
Intercept	18053.908	1	18053.908	15.278	0.000
Pre-test	20813.768	1	20813.768	17.614	0.000
Group	7488.846	1	7488.846	6.338	0.014
Error	72081.282	61	1181.660		
Total	2066047.087	64			
Corrected Total	123326.213	63			

R Squared=0.416 (Adjusted R Squared=.396)

The ANCOVA shows that post-test reading speed after intervention is dependent on the pre-test reading speed ($F(1.61)=17.614$; $p<0.001$; partial $\eta^2=22.4\%$), which shows that the dependent variable is post-test reading speed. After controlling the variables, the results show that there is a significant difference between experimental and control group's post-test reading speeds ($F(1.61)=6.338$; $p=0.014$; partial $\eta^2=9.4\%$).

The model had an R^2 of 41.6%, indicating that 41.6% of the variation in the post-test reading speed is explained by the pre-test reading speed to the group in which the participants were included. R^2 of 41.6% shows that the implications of the analyses for this study are acceptable.

3.4 Comparison of the Groups for Reading Comprehension

When the results of pre-test and post-test of experimental group are compared, the score is 1.26 or 7% better in comprehension in post-test. Same is the case in the control group, however, the gain in comprehension score was much lower in comparison with the experimental group. Students in the control group gain 0.67 higher mean score or 4% gain in comprehension score in post-test. There is an obvious difference in numbers between groups and the experimental group's reading comprehension level increased more comparing with the control group's level.

Table 9. Independent sample t test for pre-test comprehension score

Group	N	Mean	df	t	P value
Experimental	31	18.39			
Control	33	18.49			
Total	64		62	0.115	0.909

The result of the preliminary analysis showed that at the start of the study, the mean comprehension score of the pre-test for the experimental group was lower than that of the control group, however, the difference was not statistically significant, so repeated measures ANOVA were performed instead of ANCOVA.

Table 10. Repeated measures ANOVA of comprehension score for the variables of group and time

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	η^2
Within subject effects						
Time	29.608	1	29.608	5.948	0.018	0.088
Time*Group	2.795	1	2.795	0.562	0.456	0.009
Error	308.634	62	4.978			
Between subject effect						
Group	1.253	1	1.253	0.060	0.808	0.001
Error	1298.30	62	20.940			

The analysis of repeated measures ANOVA is set out. For within-subjects effects, the interaction effect for time and group was not found significant. However, a significant effect was found for time $F(1,62)=5.948$, $p=0.018$. The time effect indicates that both groups improved their comprehension score from pre-test to post-test. For between-subjects effects, no main effect was found for Group $F(1,62)=0.060$, $p=0.808$, suggesting that the 5 weeks intervention did not make a significant difference in comprehension score between the experimental and control group.

4. Discussion

The study investigated whether the learners improved their reading speed after timed reading intervention. The findings of the study show that the learners reading speed considerably increased thanks to timed reading intervention and the difference was also statistically significant. Considering the result, it can be claimed that timed reading activities are helpful for learners to improve their reading speed which is claimed to be crucial to become an efficient reader (Rasinski, 2014; Ur, 2012).

As the findings of the study presented, the participants gained 60.35 wpm after the intervention and reached to an average of 196.73 wpm speed, which was also the answer for the second research question. The number of the words increased drastically after the intervention and the learners became closer to the ideal number of average 200 wpm, suggested by Carver (2000). Also Nation (2009) and Grabe (2009) claim that the average reading rate of L2 learners ranges from 80 to 120 while this range changes from 200 to 300 when L1 readers are considered (Grabe & Stoller, 2011; Pressley, 2006). The fact that the participants reached more than 190 wpm clearly shows that even with the limitation of 5-week-period of application, the learners gained a reading speed of almost the ideal range.

Another question aimed to find out the improvement of reading comprehension level of the learners who received a timed reading intervention. Regarding the results, the participants' comprehension improved in parallel with their speed. When the results were analyzed, the difference between this group's pre-test and post-test results was statistically significant. With regard to these results, it can be postulated that timed reading practices are efficient and help learners to raise their reading speed and comprehension simultaneously.

The results for increased reading speed and comprehension due to timed reading intervention are consistent with similar studies in the existing literature (Crawford, 2008; Atkins, 2010; Chang, 2010; Chang, 2012; Tran & Nation, 2014; Chung & Nation, 2006; Macalister, 2010).

The study also examined if the learners who did not receive timed reading intervention improve their reading speed and comprehension level as they read the same reading texts during the intervention without any time constraints. The results show that even if they did not receive a timed reading intervention, participants in this group also increased both their reading speed and comprehension. The difference between the group's pre-test and post-test results regarding reading speed was statistically significant. However, when the comprehension level was considered, even though there was a difference in numbers, it was not statistically significant. Although it is hard to deduce the reason why the learners improved their reading speed without timed reading intervention, it can be assumed that readings given in the course of the application without time pressure helped

the learners improve their speed. However, significant differences have not been achieved in comprehension. As Krashen (1993) claims, reading more helps readers to become better at reading.

The study compared two groups from the points of reading speed and comprehension. Statistical comparison of the groups' reading speed performances revealed that even though both groups gained speed during the application, experimental group's scores were much higher compared to the scores of the control group. The difference between the groups was statistically significant in reading speed. The results indicate that timed reading practices ensure drastic changes in speed and help learners to read faster.

Even though no statistically significant difference was deduced in terms of comprehension, there is an obvious difference in numbers. The time limitation of the study can be considered as a disruptive effect for the difference between two groups not being significant. Also, the frequency of the intervention being once a week and three readings in a row may be too low to result in a significant difference. On the other hand, when each group was analyzed independently, a significant difference was revealed between experimental group's pre and post-test while the same result is not obtained from control group although these participants also advanced their comprehension. The improvement of both groups can be assumed to be the result of reading exposure, however, the significant difference observed in the experimental group itself points to the fact that timed reading is more helpful for learners to have a better comprehension than reading without restricted time.

The results reiterate the findings of Walczyk et al. (1999) who investigated the effects of time limitation on readers and concluded that the best comprehension was obtained under mild time limitation. Despite having a different nature, the effect of time was examined in the mentioned study on three groups; without time limitation, with mild time limitation and strict time limitation. The best results were achieved from the group with mild time limitation, which is the same case in the current study as the participants were given a time limit, however, it was enough for them to finish the text without too much stress.

This study examined the importance of timed reading in the area of teaching English as a foreign language. The results are important since improving reading skills in L2 is crucial for learners to improve their learning. The complex nature of reading consists of different elements such as the type and level of the text, the reader's ability, and reading strategies (Anderson, 2003). Furthermore, a great number of researchers agree on the idea that fluency is a must to become good readers (Anderson, 2003; Grabe & Stroller, 2011; LaBerge & Samuels, 1974; Ates, Yildirim, Can, & Turkyilmaz, 2014; Mikulecky, 2008; Turkyilmaz, Can, Yildirim, & Ates, 2014).

Klaeser (1977) and Nuttall (1996, p. 127) express the benefits of reading faster as helping learners to save time, stay focused on what they read, and enjoy reading with higher motivation so that they stay in "the virtuous circle of the good reader". Reading solely fast without comprehension does not fit to the description of reading. As Beers (2003, p. 34) mentions; "They recognize most words automatically, read fluently, vary in their reading rate, and 'hear' the text as they read".

Increasing reading speed along with reading comprehension can make a drastic change in L2 reading success and also increases learners' motivation for reading (Nuttall, 1996; Walczyk et al., 1999). However, without learning useful ways to gain fluency, it can be hard for learners to figure out the importance of fluency (Mikulecky, 1990). For this reason, fluency based instruction should be included in reading sessions and learners should be taught ways to improve their fluency. According to the results of this study, integrating fluency based activities into reading lessons helped learners to read faster and comprehend better. Finding out the effectiveness of timed reading on speed and comprehension can raise awareness among language teachers and lead to orientations in reading sessions through fluency based activities.

5. Conclusion

This study presented the possible effects of timed reading intervention on L2 learners' reading speed and comprehension levels. The analyses included both within group and between groups comparisons and revealed the changes in reading speed and comprehension due to the timed reading practices. The comparisons showed that each participant improved their reading speed and fluency. The increase of experimental group was considerably higher in comparison with control group. The difference was statistically insignificant from the point of comprehension. On the other hand, there was a clear difference in descriptive analysis that is pointing to a higher comprehension level in experimental group. The results demonstrated that timed reading practices had a positive influence on the participants' reading speed and comprehension, which is a fact that can encourage language teachers to implement reading instruction with fluency based practices and create a positive difference in L2 learners reading skills. The findings of this study are consistent with the previous research on the effects of timed reading intervention on learners' reading speed and comprehension levels. Despite being different in

nature, all the studies to the researchers' knowledge have found timed reading intervention useful for improving reading speed together with comprehension, or at least without setbacks in comprehension. The gains of timed reading practices were clearly revealed via the present study. The learners showed meaningful improvement in their reading speed and comprehension after the intervention.

When L2 reading instructions in language schools in Turkey are revised, lack of fluency-based activities is clearly revealed despite the fact that achieving a certain level of fluency is listed as a certain goal of the lesson. Even though further study is needed to find out more about the effects of timed reading practices on reading speed and comprehension, it can be concluded that reading sessions including timed reading practices can raise learners' fluency fast and drastically especially from the point of speed.

Timed reading practices can be integrated in L2 reading instruction in reading classrooms and help learners raise their reading fluency. With supportive implications of similar studies in the literature, timed reading has been proven to be useful especially in terms of speed. However, as it is also implied in the related literature, the raise in speed does not cause relapses in comprehension. On the contrary, it helps learners improve their comprehension of the reading material.

Finally, albeit being limited in the context of participants, implementation time and study environment, this research might raise awareness and draw attention to the importance of reading fluency and the efficiency of fluency-based instruction among teachers of English as a foreign language. Further research is needed to confirm and compare the findings of the study.

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